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Amaral et al.

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(54) **AXIALLY PRESSURE BALANCED
FLOATING SEAL SYSTEM**

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(57) **ABSTRACT**

A pressure balanced floating seal system positioned within a structure about a rotating shaft. The floating seal system has a cylindrical outer seal housing having a cylindrical internal recessed region formed in the outer seal housing with a retaining flange extending into said internal recessed region. A cylindrical inner seal housing is positioned within the internal recessed region. The inner seal housing has an annular internal surface for accommodating the rotating shaft. Two sealing member retaining grooves are formed in the inner seal housing annular internal surface and a lubricant recess is formed between the two grooves. An intermediate seal is retained on the forward side of the inner seal housing forward face between the inner seal housing and the outer seal housing at the retaining flange. Sealing members are positioned in the sealing member retaining grooves at substantially the same radius as the intermediate seal.

12 Claims, 7 Drawing Sheets

